UNDP IN EUROPE

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FOREWORD

The cataclysmic political and economic changes which stormed through Eastern Europe in late 1989 present unparalleled challenges and opportunities. As they embrace radical programmes of economic restructuring and move towards market economies the countries concerned will be searching for models they can adapt to their own circumstances and specialists to call upon for advice.

This presents a new challenge to the donor community as well. For the first time, many lending institutions and grant development co-operation agencies will be weighing the Eastern European factor into their overall development equations.

UNDP, with its political neutrality and ability to build bridges, has long enabled countries in the European region to obtain scientific and technical training, advisory services and equipment from the West. Now, more than ever, it is in a position to assist these countries as they make hard choices and begin the painful process of translating them into concrete actions.

Though modest in scale, UNDP support for the ten European countries which receive its technical co-operation addresses needs in crucial areas — science and technology, energy, the environment, food production, economic restructuring and the development of human talents. This booklet provides an overview of these activities. I hope you will find its record of past achievements heartening, as well as a source of encouragement for our new challenges.

Mohamed Abdalla Nour
Assistant Administrator and Regional Director
Regional Bureau for Arab States and Europe

READEX FICHE

Ten countries in Europe receive technical co-operation from the United Nations Development Programme (UNDP): Albania, Bulgaria, Cyprus, Hungary, Malta, Poland, Portugal, Romania, Turkey and Yugoslavia. Their combined population is over 168 million, and they cover a total area of 1.9 million square kilometres.

These countries vary widely in population, area and political orientation and embrace a variety of cultures and ethnic groups. The largest is Turkey, which has a population of over 50 million and covers an area of 780,580 square kilometres. The two smallest are island countries in the Mediterranean, Cyprus with 673,000 people and an area of 9,251 square kilometres, and Malta with 400,000 people and 320 square kilometres. Private and state enterprises have developed side by side in Cyprus, Malta, Portugal and Turkey. The other six European countries assisted by UNDP have traditionally had centrally planned economies, though, as a result of the

dramatic political changes of 1989, most are now changing their economic policies to encourage more private enterprise.

What the countries have in common is a relatively high degree of industrialization and technological development. Literacy is also high throughout the region — 75 per cent or above in all countries and reaching 98 per cent in some of them. Life expectancy ranges from 65 to 75 years.

The countries also share a desire to improve their economies. They wish to provide their people with more goods, of higher quality, improved health, education and other services. Better housing and improved transport and communication systems are also high on their agendas. They want to ensure their populations clean, healthy and hospitable living and working environments. And they are eager to maintain harmonious economic, technical and cultural exchanges with their neighbours to the East and West, as well as with developing countries in other regions.

UNDP ROLE

Despite progress made in some areas, the European countries which receive UNDP technical co-operation still confront awesome problems. Shortages of essential foodstuffs, rampant inflation, shoddy merchandise, outmoded factories, severely polluted air and waterways, insufficient and deteriorating infrastructure and lack of effective management are just a few of the difficulties they face. Those that have recently undergone dramatic upheavals in their political structures face painful adjustments to new economic orientations.

UNDP is supporting the countries of the region as they face these challenges. Its programmes of technical co-operation with their governments emphasize modernizing industries to make them more efficient. Investments are being promoted, research and development encouraged and improved management techniques introduced.

Acquisition of up-to-date expertise and technology is another priority. By providing funds for advisory services and the purchase of essential equipment, UNDP enables countries to acquire modern techniques and technologies. As an important source of external development co-operation, UNDP also provides a window through which they can gain access to the world's best and latest innovations.

UNDP also helps countries address environmental issues, linked to energy consumption. Of universal concern, and recognizing no boundaries, such problems often require inter-country and inter-regional approaches.

Countries wishing to change their economic policies have asked UNDP to advise them on how to institute reforms and pace transformations so that they will cause a minimum of inflation, unemployment and other hardships.

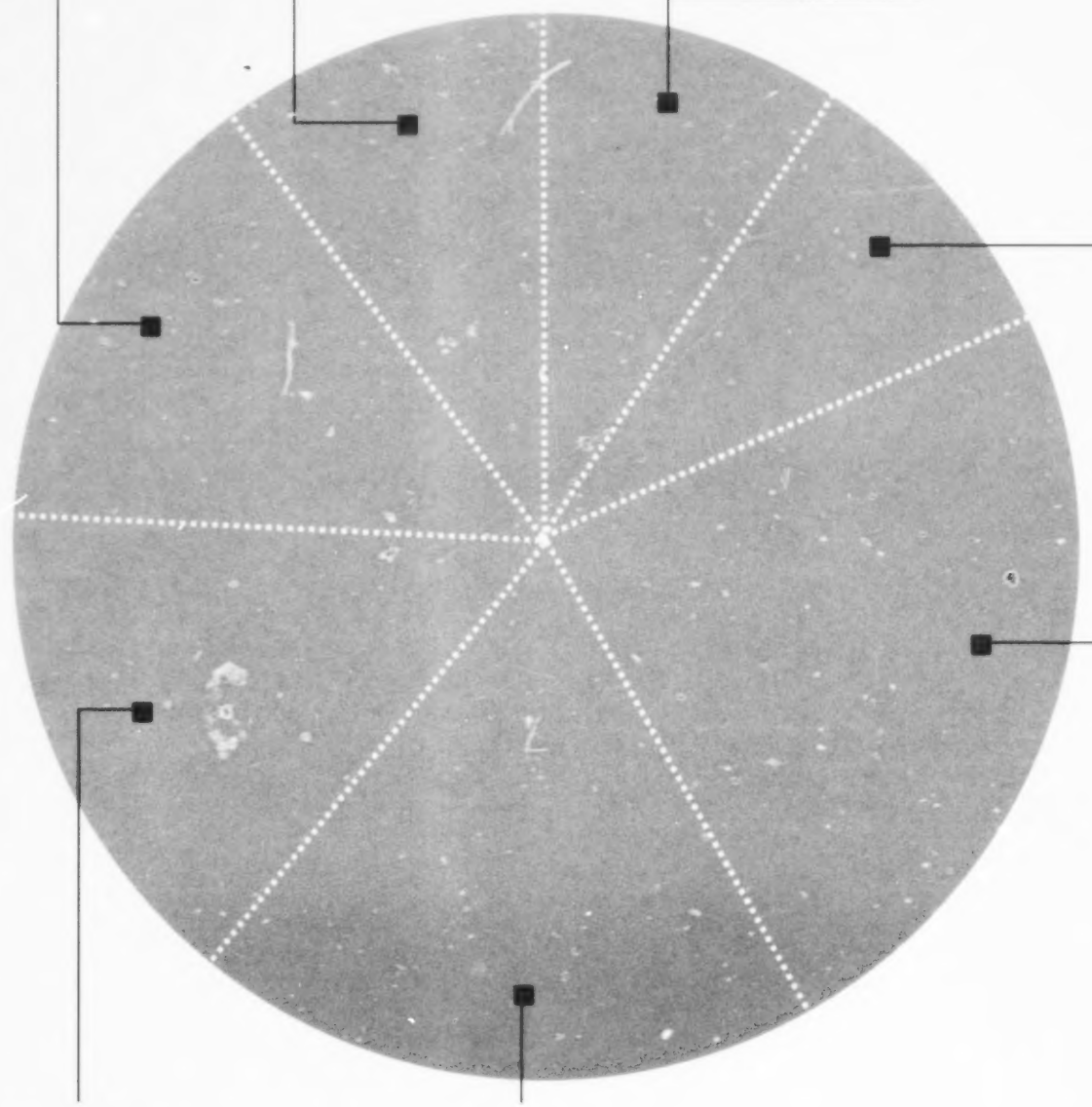
Technical Co-operation among Developing Countries (TCDC) is promoted among the ten countries, and as an outreach to the Arab world and other developing regions.

For the period 1987 - 1992, UNDP has approved a total of US$86.3 million for national programmes in the ten countries of the European region. As the chart shows, the largest share is earmarked for industrial development. Other areas of importance are natural resources development and environmental protection, human resources and food production. Additional resources come from the European regional programme. While the funds UNDP can provide are modest, they are of great value to the countries concerned inasmuch as they provide essential expertise, equipment and training which these countries might not otherwise be able to obtain. UNDP support goes a long way because the European nations do not require long-term resident experts. Projects are generally run by national project managers and any outside expertise required is provided by short-term technical consultants.

Contributions from governments, in kind and from national budgets, often far exceed UNDP funding for projects, attesting to the importance countries give to these activities.

There is also a multiplier effect when projects or programmes generate parallel bilateral resources or significant follow-up investment.

Approved Budgets by Sector (1987-1992)



Natural resources and the environment

The ten European countries benefitting from UNDP technical co-operation have become increasingly conscious of the need to conserve and protect their natural resources. Urban growth, large-scale agricultural production and industrialization have plagued the region with all the environmental ills of the modern world. Crowded cities lack sufficient housing and adequate water supply and sewerage systems. Poisoned streams, lakes and rivers are killing marine life and endangering human health. Depleted, eroded soils are being further polluted through an overuse of chemical fertilizers. Acid rain kills trees and further endangers waterways. Air laden with carbon dioxide and other chemicals belched out by automobile exhausts and factory smokestacks contributes to reduction of the ozone layer, threatening the earth with a dangerous climate change.

■ With UNDP assistance, a number of countries have taken steps to halt these damaging trends. Scientists in **HUNGARY** are finding ways to deal with toxic industrial wastes, many of which defy traditional disposal strategies. One approach now being developed, with some success, is to convert industrial and mining wastes into usable materials for industry.

Fly ash, a powdery residue left over from incineration processes at community waste, metallurgical and power plants, is often contaminated with toxic heavy metals. With UNDP and UNIDO support, the Hungarian Academy of Sciences has developed a method to detoxify the ash for use in the production of high-grade ceramic bricks for housing and roof construction. Until this time there have been few responsible solutions to fly ash disposal. Burying it is considered dangerous because of the possibility that toxins will leech into the soil and groundwater.

The process that the laboratory has been refining — and hopes to patent — involves mixing fly ash with clay to produce bricks. Toxic elements are removed by adding peat to the mixture, or by treating it with special acidic solutions. Bricks traditionally produced entirely from clay now contain as much as 30 per cent recycled fly ash. UNDP's assistance has helped the Hungarian Academy of Sciences acquire laboratory equipment crucial to developing the technology.

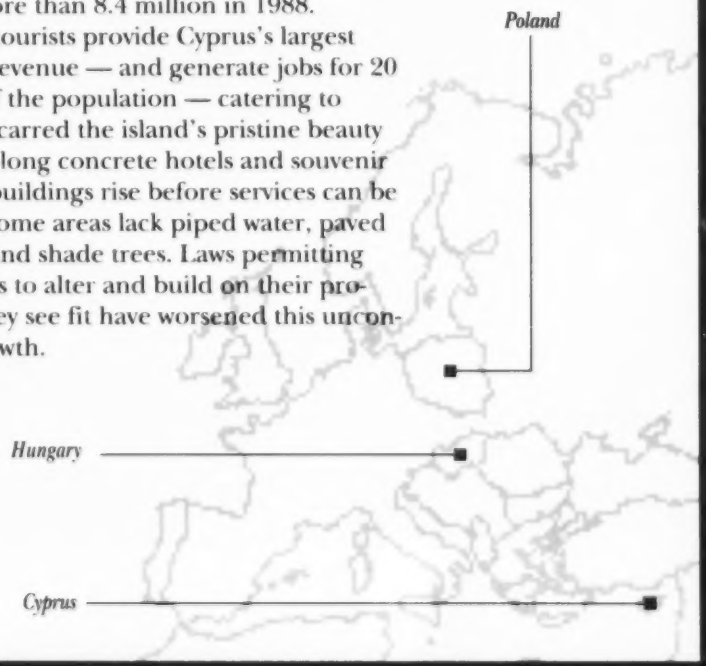
Europe produces millions of tons of fly ash waste annually, and the region has been eager for new disposal strategies. Some countries are dumping fly ash into the sea, or burying it in abandoned mines. Now other European countries, including the Federal Republic of Germany and the Netherlands, are expressing strong interest in Hungary's approach.

Under the project, the laboratory is also developing a process to treat and recycle highly toxic galvanic mud, a by-product of the micro-electronic and automotive industries. It has compiled a database that details all industrial wastes present in Hungary.

Block-long hotels shadow Cyprus's beaches.

■ In **CYPRUS** the country's natural resources — sun, sand and sea — are the very assets that have brought about the island's environmental degradation. They lure over a million tourists a year, and the rush to accommodate visitors has led to unplanned, unsightly construction. In the southern, Greek Cypriot sector in particular, the expansion of tourism was seen as a quick means of generating jobs and reactivating a shattered economy after civil disturbances in 1974. Nights guests spent on the island jumped from fewer than 88,500 in 1968 to more than 8.4 million in 1988.

While tourists provide Cyprus's largest source of revenue — and generate jobs for 20 per cent of the population — catering to them has scarred the island's pristine beauty with block-long concrete hotels and souvenir shops. As buildings rise before services can be installed, some areas lack piped water, paved sidewalks and shade trees. Laws permitting landowners to alter and build on their property as they see fit have worsened this uncontrolled growth.



Cracow's historic treasures are disintegrating.

UNDP and the World Tourism Organization (WTO) have co-operated with Cyprus on a master plan for tourism development through the year 2000. Calling for investments of US$2,900 million over 15 years, it recommends controlled expansion and proposes that new development be restricted to existing tourist areas, which would be provided with amenities. Growth targets estimate that tourism will contribute $871 million to the Gross Domestic Product between 1997 and 2001, when tourists are expected to spend 28.9 million nights in Cyprus. The plan includes an environmental action programme and includes measures to protect undeveloped coastal areas and develop inland mountainous areas for tourism to take pressure off the beaches.

■ Air pollution is responsible for the crumbling of historic buildings in another tourist destination — Cracow, a city in southern **POLAND** where 6,000 houses, 72 churches and 43 monasteries have been declared national monuments. This traditional centre of culture and learning was untouched by the bombs of World War II, but its architectural treasures are currently at risk from the sulphur and fluoride-laden emissions of metal and chemical factories. Gothic cathedrals, Victorian town houses and remnants of pagan, medieval, and renaissance civilizations are all disintegrating under a cloud of thick black dust.

Poland's new government has recognized the need to reduce pollution by modernizing plants such as the country's largest steel complex at Nowa Huta, 15 kilometres from Cracow, which employs 30,000 workers. However, this will take time, as will negotiating agreements with neighbouring countries, from which the wind blows other waves of soot.

Meanwhile, Poland is going ahead with restorations, motivated by a desire to preserve Cracow's priceless cultural heritage and to exploit its tourism potential. The city gets three million visitors a year, of whom 300,000 come from the West, and expects their numbers to increase rapidly.

With support from UNDP and WTO, historical preservation officials from Poland have visited Italy, France and the United Kingdom to study these countries' conservation techniques, which they are now applying in Cracow. Reinforcing their efforts, the City Council has adopted an environmental protection project for Cracow's Old Town and prepared annual investment programmes for limiting pollution. They call for installing and modernizing anti-dust equipment in factories, improving the quality of coal used and using alternate fuels. Priority is also being given to redesigning traffic to relieve the harmful effects of congestion.

Turkey has more than 3,000 foundries.

Industrial development and technology

Industrial development is the key to satisfying demands for more and better products in the ten countries, and to producing goods for export that can compete in the international marketplace. Sometimes there is a need to modernize existing technologies and introduce more efficient management. In other cases, state-of-the-art technologies from abroad are required, but with the rapid pace of technological change and their limited contacts with the West, countries are not aware of all that is available. In both cases, scarce foreign exchange may place foreign expertise and equipment out of reach.

With access to global technologies, covering virtually every field of endeavour, UNDP is in a unique position to facilitate technological transfers. The funds it provides to supply expertise and technologies that countries could otherwise not afford yield many times their value in productivity.

TURKEY recognizes that foundry technology, though no longer advancing in the developed world, is still very important to developing countries. By taking up the slack in its development, the country is both benefitting a vital domestic industry and helping other nations improve manufacturing.

Most of Turkey's more than 3,000 foundries are run by small private manufacturers. They produce a range of metal products, from nuts, bolts and screws to weights to add ballast to tractor wheels. To help producers purchase better raw materials, upgrade manufacturing and enhance product quality, the government created the Small Industry Development Organization (SIDO) in 1968, assisted by UNDP and the UN Industrial

Development Organization (UNIDO). SIDO's initial pilot plant, on an industrial estate in Gaziantep, accommodated 1,200 foundrymen and metalworkers.

With further UNDP and UNIDO support, SIDO set up the Ankara Regional Development Centre (ARDC), which gives small-scale entrepreneurs access to up-to-date know-how and testing and analysis equipment they could never afford on their own. The Foundry Development wing helps firms solve technical problems, offers engineering and technical consultancies, and provides laboratory services and marketing assistance. The Consultancy and Quality Improvement branch helps entrepreneurs design tools, jigs, fixtures and special purpose machines, select raw materials, and obtain management advice and technical information. These services have helped foundry owners improve both products and profits. For example, assistance in upgrading cupolas, the huge ovens in which metal is liquified before casting, has led to productivity increases of up to 40 per cent.

SIDO has established centres in several other locations and eventually hopes to cover all of Turkey's foundries. Tunisia, Somalia and Malaysia are among the countries with which it is sharing knowledge and expertise.

■ In **ROMANIA**, laser technologies which cut metals with concentrated beams of light have been used to manufacture machine tools for heavy industries for more than 25 years. The Institute of Physics and Technology of Radiation Devices (IPTRD) has developed an efficient cutting tool, the continuous wave (c.w.) CO_2 laser, as well as accompanying optical components. But Romanian made lasers have been neither reliable nor powerful enough to efficiently and accurately fine cut ceramics, iron, steel and other metals, and to perform other standard laser operations.

Thanks to UNDP and UNIDO, the country

Albania is expanding wine exports.

Ultrasonic equipment has improved Yugoslavia's medical capacities.

is building a permanent production capacity for vastly improved lasers. With equipment acquired from Italy, the IPTRD will be able to design and construct prototype samples of c.w. CO_2 lasers which are twice as powerful and ten times more durable. They will be able to stand up to 300 hours of effective industrial usage. A cadre of 15 engineers and technicians will be trained to produce the improved lasers.

■ Increasing exports is the goal of UNDP support for the modernization of wine production in **ALBANIA**. Wine-making flourished in this mountainous Balkan country until the 15th century, when it was suppressed following the Ottoman invasion. It emerged again after World War II as a cottage industry, and became industrialized in the 1950s. There are now 22 wine-producing factories in Albania, and about 100 small wineries scattered around the country. They produce 15 million litres of wine each year, 25 per cent of which is exported to other Eastern European countries. Wine-making is the country's third largest industry in the food and beverage sector, following bread and milk. It is thought to have great potential for expansion because Albania is rich in the Kallmet grape, highly prized by wine specialists and used to produce high-quality wines throughout the Mediterranean region.

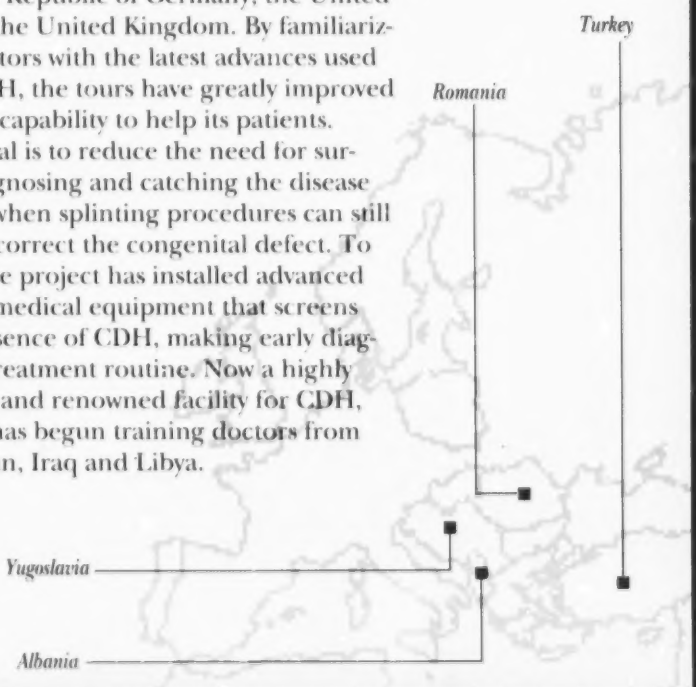
To expand, the industry badly needs new production machinery, the lack of which has lowered the quality of Albanian wines and their market potential. New filtering and grape crushing machines, stainless steel storage tanks and cooling systems, essential to enhancing wine flavor and quality, are being installed at a new experimental production centre that UNDP and UNIDO are helping to establish in the capital city of Tirana.

The government's strategy to improve the industry relies heavily on the work of this centre, which will also provide training for wine-making specialists. The plan is to spread the new winery equipment throughout the industry by 1992, increasing production and exports by as much as 40 per cent. One new product already developed at the experimental centre, sparkling wine, is now ready for its market debut.

■ The latest in medical technology is being applied at the Clinic for Orthopaedic Surgery in Skopje, **YUGOSLAVIA**, resulting in good progress in treating a painful and debilitating bone disease unusually prevalent in the southern republic of Macedonia. Congenital Dislocation of the Hip Joint (CDH) strikes young children and adults and causes severe hip deformity. In Macedonia there are two cases of the disease per 100 people — ten times the incidence found in most parts of the world. The condition can be treated surgically, and, if detected early enough, through non-invasive medical procedures.

UNDP, with the World Health Organization (WHO), is providing the Clinic with new medical instruments and equipment and enabling surgeons to go on study tours to the Federal Republic of Germany, the United States and the United Kingdom. By familiarizing the doctors with the latest advances used to treat CDH, the tours have greatly improved the clinic's capability to help its patients.

One goal is to reduce the need for surgery by diagnosing and catching the disease in infants, when splinting procedures can still be used to correct the congenital defect. To this end, the project has installed advanced ultrasonic medical equipment that screens for the presence of CDH, making early diagnosis and treatment routine. Now a highly specialized and renowned facility for CDH, the Clinic has begun training doctors from Syria, Jordan, Iraq and Libya.



Realizing human potential

Enabling people to improve the quality of their own lives is the ultimate goal of any development programme. While the countries UNDP assists in Europe have attained higher literacy rates than most other developing countries, they still need to upgrade the quality of education. People in these countries can expect a relatively long life, but there is also the desire to incorporate the latest surgical techniques and the best preventive methods for cancer, heart attacks and AIDS into the health system. To stem emigration to cities and other countries, governments are striving to provide young people with opportunities for productive employment. They are also searching for ways to address the needs of their growing elderly populations.

Bulgarian students programme miniature robots.

■ For ten years, **BULGARIA** has been conducting an educational experiment in 30 elementary and secondary schools, assisted by UNDP, the UN Educational, Scientific and Cultural Organization (UNESCO) and UNIDO. Viewing the computer as an extension of the human mind, it uses state-of-the-art technology to train people for the world of hi-tech information systems and robots.

Participating students learn by doing. In the fourth grade, groups of pupils begin using the internationally accepted LOGO computer language to manipulate miniature trucks and other toys they build with LEGO construction sets. This introduces them to the principles of mechanics and physics while they learn skills of co-operation. Later, as they study language, mathematics and other subjects, computers

pose questions that prompt children to break down concepts into their component parts, giving them logical, analytical and problem-solving skills. High school students develop, debug and monitor programmes for miniature robots, which are exact replicas of machines used in factories for arc welding, wood processing and other operations.

Bulgaria makes its own PRAVETZ personal computers. UNDP provides other equipment, fellowships for Bulgarian personnel, and UNESCO and UNIDO consultants. Software is developed at the Lenin Higher Institute of Mechanical and Electrical Engineering. One thousand teachers have received special training.

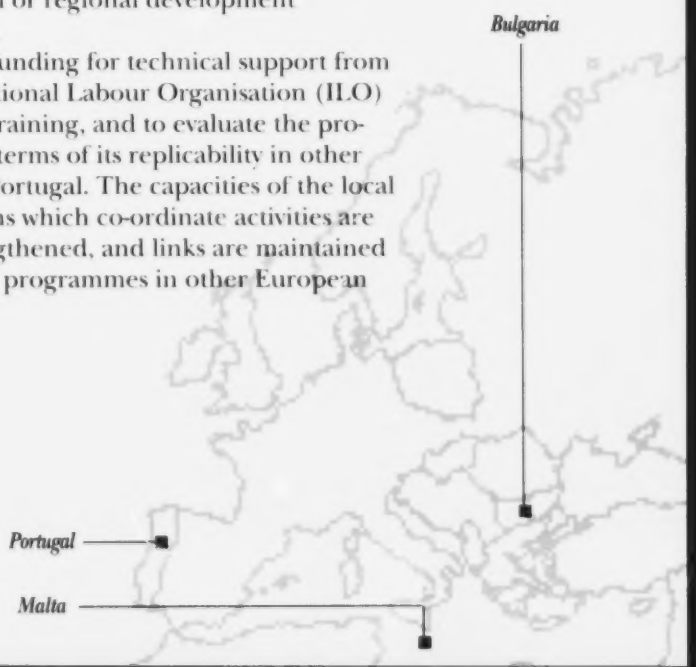
Bulgaria is sharing its computer education experiences with other countries. Since 1985 it has organized three international conferences on "Children in an Information Age." An ongoing student exchange programme with the Hueneme School District in California has exposed Bulgarian young people to Hueneme's "Smart Classroom," which integrates micro computers with video and other electronic media, and the Californians to Bulgarian robotics.

■ The emigration of creative, energetic young people to cities and foreign countries deprives rural communities of some of their best human minds, skills and talents. Hard-hit by this phenomena, **PORTUGAL** is not only encouraging young people in areas of high emigration to stay put, but training them to stimulate community development. Through the "JADE" project of the country's Institute for Employment and Vocational Training, 64 young people between the ages of 20 and 30 are being trained as local development agents. Sixty of the trainees come from three economically depressed rural regions of Portugal. The other four were Portuguese expatriots living in France. All have completed high school, and 20 to 40 per cent, depending upon the region, have a university degree.

Portuguese youths spearhead community development.

The recruits, half of whom are women, are being trained to spur economic development in their home communities. They study such subjects as public administration, community improvement, and organization and management of enterprises. The skills they acquire enable them to mobilize various participants for development projects from government offices, communes, co-operatives, associations and universities. Once trained, the young people take up positions as change agents within various local or regional development institutions.

UNDP funding for technical support from the International Labour Organisation (ILO) is used for training, and to evaluate the programme in terms of its replicability in other regions of Portugal. The capacities of the local Commissions which co-ordinate activities are being strengthened, and links are maintained with similar programmes in other European countries.



Malta hosts the International Institute on Aging.

While the needs of young people are factored into most development equations, the requirements of the elderly are rarely given much consideration. Even so, their growing numbers are sure to have a considerable impact on overall development in the future. By the year 2025, according to UN projections, the world will have nearly 1.2 billion people aged 60 or over. Seventy-five per cent will live in developing countries.

■ Long interested in international co-operation on behalf of the aged, **MALTA** offered to host the International Institute on Aging. Officially opened in April 1988, the Institute was set up to enable developing countries to acquire personnel trained to deal with the problems of their senior citizens, as well as data upon which to base relevant social policies and actions.

Specialized training courses on issues related to the elderly are offered for policy-makers, planners, programme executives and trainers. For example, an international multi-disciplinary training programme leading to a post-graduate diploma in gerontology and geriatrics has been prepared. Short-term courses are offered on such topics as work, retirement and income security; medical geriatrics; and social gerontology. All courses are prepared by groups of international experts and are based on first-hand assessments of genuine training needs in developing countries. They will be offered through networks of existing institutions, particularly in these countries.

The Institute also conducts research and prepares and distributes scientific reports and educational materials. It offers advisory services and organizes seminars, workshops, fellowships and study tours. Through its efforts, 44 institutes and organizations from both developed and developing countries have established an information exchange network on the elderly.

Close co-operation is maintained with WHO's Global Programme for Health of the Elderly, as well as with other UN agencies. UNDP supports the Institute's activities through a project executed by the UN Department of Technical Co-operation for Development (UN/DTCD).

Food production

A patchwork quilt of farm and pasture lands covers the plains, hills and valleys of the European countries receiving UNDP support. Though these countries are highly industrialized, farming still supports many families and agriculture remains enormously important economically. Most countries are both importers and exporters of food products. Polish hams and Portuguese wines occupy places of honour on Western gourmets' tables, while the countries that produce them import grains and other basic foodstuffs. Balancing the vital need for foreign exchange which food exports can bring in with increasing domestic demands for less expensive provisions, of greater variety and better quality, is a never-ending challenge.

Salmon and trout are farmed in the Adriatic Sea.

■ Although **YUGOSLAVIA**'s entire western coast lies along the bountiful Adriatic Sea, the country is not self-sufficient in fish production. In 1988 it imported 50,000 tons of table fish to satisfy consumer demand. In support of the government's effort to reduce costly fish imports, UNDP and the Food and Agriculture Organization of the UN (FAO) are helping marine scientists at the Ruder Bŏskovíc Institute in Zagreb introduce new fish varieties. As a result, Coho salmon and trout, common in colder waters north of the Mediterranean, are now successfully being farmed for the first time in the Adriatic. The Institute's Center for Marine Research has received guidance from Scottish and Canadian fishery experts, as well as feed supplies, hatcheries and computer equipment.

Making the whole effort possible are the cool, brackish waters favourable to salmon and trout farming in the estuary of the Krka River, which empties into the Adriatic Sea near Sibenik, a small fishing village on the Dalmatian coast. After eight months in the hatcheries there, the fish are harvested at an average weight of 1.5 kilos. The yearly yield from five farms totals about 170 tons, much of which is presently exported to Italy. Many Yugoslavs have still not acquired a taste for salmon, though this is expected to change as the fish becomes more common.

Because of the project's success, other countries in the Mediterranean region have become interested in salmon and trout aquaculture. The Governments of Turkey and Greece have recently expressed interest in adapting the programme to their needs.

■ **POLAND** devotes 3.5 million hectares to rye production. The harvest constitutes 40 per cent of all Polish cereal crops and 60 per cent of all rye grown in Europe. Unlike wheat and barley, rye can tolerate the sandy, acid soils that cover 75 per cent of Poland's farmlands. However, relatively low in protein, it is less nutritious than other cereals.

An alternative to rye is Triticale. A hybrid developed at the International Centre for the Improvement of Maize and Wheat (CIMMYT) in Mexico, it combines the nutritional features of wheat with rye's greater adaptability to unfavourable growing conditions. With support from UNDP and FAO, Polish scientists have made significant achievements in breeding Triticale strains, adapted to local conditions. The varieties are especially valuable for nourishing pigs, cattle and poultry, now fed partly with imported grains.

Aware of Triticale's potential, Polish farmers have taken seed directly from breeding stations before the proper trials have been completed. Some have even reproduced uncertified Triticale seed for sale, which could doom the crop to failure.

UNDP and FAO are working with the government to ensure that farmers get certified seed. Large quantities of Poland's new Triticale cultivars are being produced and rules and standards governing their introduction established. Criteria for using Triticale for animal feeding and human consumption are being drawn up. Scientists and technical and administrative staff are being trained to implement controlled dissemination of the hybrid. Field Days organized by 49 Regional Centres of Agricultural Progress have given 10,000 farmers an opportunity to learn about Triticale production and its use as an animal feed.

As a result of these efforts, the surface planted with Triticale in Poland grew from 40,000 hectares in 1985 to 549,000 hectares in 1988, when 42,382 tons of certified seed were produced and distributed. Poland plans to sow nearly a million hectares of Triticale in 1990.

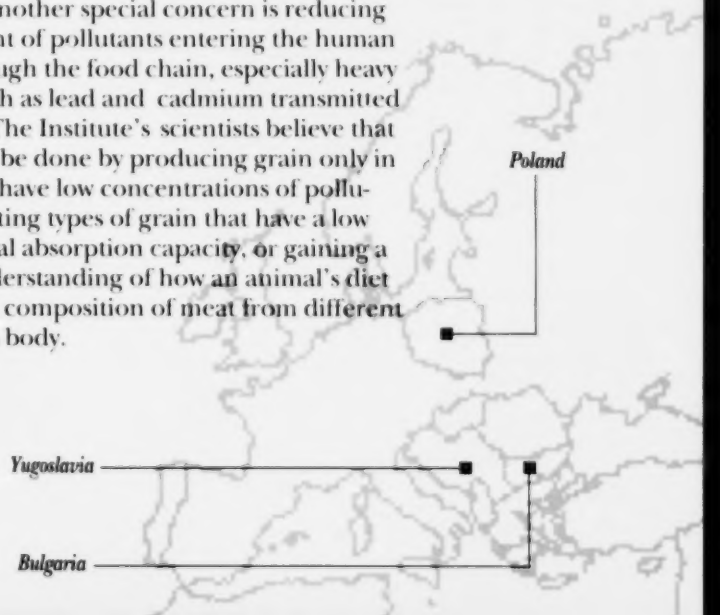
■ For 20 years, the Institute of Grain and Feed Industry in **BULGARIA** has been studying the most effective use of grain for human consumption and animal feed. It was established with assistance from UNDP and FAO, which have provided training for technical specialists and furnished consultants and scientific equipment. The staff of 400 includes some 60 research scientists, most of whom are women.

One section of the Institute develops nutritious baby foods and macaroni products, including some based on rice for people who cannot tolerate wheat. More than 13 types of baby foods have been devised and are sold in Bulgaria under the "Sunny" label. They consist of grain mixed with different combinations of vegetables or fruits and are easily prepared by adding water or milk. Another section prepares different kinds of bread, determining what types of flour and other ingredients will provide the most nutrition.

Other departments of the Institute research feeds for poultry, pigs and cattle, testing them for chemical, biological and protein content. Tests are performed both in laboratories and with real animals from the adjacent experimental farm. Since the production of high-quality meat is the ultimate goal, animals which have been fed different mixtures are slaughtered on the premises and the meat is subjected to various chemical analyses and taste tests.

Preparation of a "protein map," showing the protein content of different grains grown in various regions of Bulgaria, is a recent initiative. More than 1,000 tests have already been performed on grains from two harvests in six regions. Another special concern is reducing the amount of pollutants entering the human body through the food chain, especially heavy metals such as lead and cadmium transmitted by grain. The Institute's scientists believe that this could be done by producing grain only in areas that have low concentrations of pollution, selecting types of grain that have a low heavy metal absorption capacity, or gaining a better understanding of how an animal's diet affects the composition of meat from different parts of its body.

Bulgaria is developing various grain-based products.



Many of the difficulties confronting European countries know no borders. River and lake pollution, needs for efficient road, rail, telecommunications and postal systems, and the necessity of preparing for earthquakes in seismic zones are just a few of the transnational problems they face. At the same time, European countries share a variety of national dilemmas such as the urgent needs to conserve energy and restructure newly decentralized economies in favour of greater privatization. To find solutions, countries must enter technological areas where research costs are usually far beyond their means. But while individual countries may never be able to afford the research they need, countries together can pool resources to unleash mutually beneficial potentials.

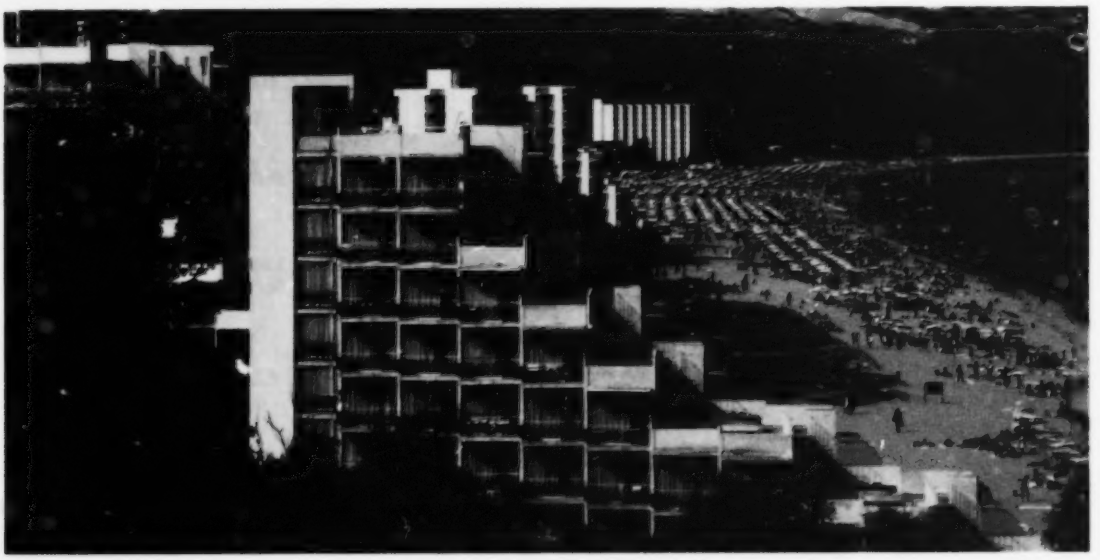
UNDP's Regional Programme for Europe covers five priority areas: environment, energy, science and technology, transport and communications and management. These priorities, as well as the more than 30 projects receiving support, were selected by the European governments themselves through a consultation among 26 recipient and donor governments, five task forces in which 125 specialists participated, and two surveys of country preferences.

In addition to the ten European countries UNDP supports, all members of the Economic Commission for Europe, as well as Canada, the United States and the Union of Soviet Socialist Republics may participate in the regional activities — a total of 33 countries. Most do, paying the costs of their participation. Sixteen UN agencies are also involved.

All projects in the European Regional Programme focus on the development and application of advanced technical, managerial and economic systems. Most are creating self-sustaining networks of institutes able to conduct and apply research, disseminate information, and provide high-level training and consultancy services. An estimated 500 institutes are involved. By marketing services, regionally or globally, and because they often attract investment, many become self-sustaining. This not only endows the region with permanent capabilities for continued development in key fields, but gives UNDP and the UN system additional resources to tap for global development.

Participating countries may take the lead in certain activities, depending upon their comparative advantage. UNDP and its UN agency partners provide an organizational and analytical framework in which to work and provide vital access to state-of-the-art technology. They also bring together countries which would not normally co-operate for development.

For the years 1987 - 1991, UNDP is providing $10.8 million for the European Regional Programme. Participating countries are contributing a great deal more, for both capital and recurring costs. Institutes supported by the programme could earn $30 million a year in revenues. The investment potential of the entire programme has been estimated at $15-20 billion.



The Black Sea's marine life is threatened.

■ Deteriorating water quality is one of Europe's overriding environmental concerns. A case in point is the state of the Black Sea, an important trade route and source of fishing and tourism revenues shared by Bulgaria, Romania, Turkey, and the USSR. The Sea gets its name from the fierce squalls and somber clouds which darken its shores during the autumn months. For centuries it has sustained a thriving marine life, which residues from modern agriculture and industry are now threatening to snuff out. The situation is so bad that poison gas can already be detected emerging from the sea into the atmosphere in some places. If this continues unabated, whole towns will have to be razed, with dire consequences for people and economies.

The Black Sea is fed by the Danube and other European rivers. Since ancient times, annual winds and rains have washed leaves and other organic material down these waterways into the sea, creating a large biomass on its floor. This decomposed, reducing the supply of oxygen in the sea, and creating hydrogen sulfide, which is toxic to living things.

For thousands of years the Black Sea was in a steady state. But as farmers in the highly industrialized countries through which the European rivers flow began using chemical fertilizers, the ecological balance was disturbed. Industrial pollution has compounded the problem, as have dams built for power and irrigation which lessen the amount of fresh water reaching the sea. For centuries a 200-metre layer of hydrogen sulfide-free, oxygenized water remained just below the surface. Now it has been reduced by more than half.

With WHO and the UN Environment Programme (UNEP), UNDP is supporting the coastal countries' efforts to agree on a programme to thoroughly research the condition of the Black Sea and adopt restoration and protection measures. One element could be the introduction of Blue Mussel culture. Not only do these shellfish have economic value but they act as natural water purifiers by eating plankton, which proliferate in the presence of phosphates and nitrates and further diminish oxygen. Activities are linked to another UNDP-supported project, concerned with protecting Danube water quality.

■ As few European countries have sufficient energy resources to cover domestic demand they are heavily dependent upon imported oil to fuel their engines of industry. Making matters worse, the out-of-date technologies still used in the plants of several European countries require 50 to 200 per cent more energy than do the factories of developed countries. How important improving energy efficiency is for the economic growth of these countries has not always been appreciated. Governments have often subsidized energy, creating few incentives for conservation.

UNDP is helping the European countries improve the efficiency of their industrial energy use through a $950,000 UNIDO-executed project which takes a co-operative approach. The project began in 1985, aiming to make national specialists aware of existing energy-saving technical systems, and to develop and apply other such systems. Another goal was to form seven sub-networks through which the European countries could work together on energy conservation from a variety of perspectives. These sub-networks address policy issues, energy audit and management systems, and waste energy and the recovery of waste materials for energy. They also cover four specific groups of industries: iron and steel; food processing; chemicals and alumina; and building materials.

The international network for co-operation on industrial energy conservation (ENCONET) initiated by the project involves nine countries, nearly 40 institutions and approximately 200 specialists. It works with four to ten individual factories in each participating country, as well as with government officials and research and training institutes, to promote a sharing of industrial energy conservation knowledge and experience. Current assistance is directed to making ENCONET self-sustaining and enabling it to share its results and experiences with developing countries in other regions.

■ The 18 countries bordering the Mediterranean cover an area of eight million square kilometres and have a population of about 350 million. This region is one of the earth's most seismically active zones. Over the past 25 years, Albania, Algeria, Greece, Italy, Morocco, Turkey and Yugoslavia have all been hit by major earthquakes, which inflicted much loss of life and damage to property. As the region is undergoing rapid industrialization and urbanization, a failure to take steps to mitigate risks could make future earthquakes even more devastating.

UNDP has funded several national and regional projects to survey earthquake hazards and develop building construction standards for seismic conditions, for example, in Yugoslavia, the Balkans and the Arab States. These projects have helped to equip local institutions with techniques and personnel trained to assess risks and apply strategies to lessen damage from earthquakes. But countries' considerable knowledge and experience in this area needs to be systematized, synthesized and disseminated throughout the region.

A $1.6 million project, for which UNDP is providing $200,000 and the Government of Italy, $1.4 million is addressing this need. It is designed to identify issues, needs and capabilities, provide training and disseminate commonly acceptable methods and techniques to assess seismic hazard, determine vulnerability and reduce risks. Particular attention is given to the effect of earthquakes on man-made environments such as human settlements, historic sites and infrastructure.

Through the project, countries will share information on ways to reduce risks, including physical planning and the design of earthquake resistant buildings, legislation mandating adequate standards, and disaster preparedness and public awareness programmes. A large number of professionals will be involved — from geophysicists, geologists, and seismologists to land use planners, civil engineers and architects — as well as several UN agencies. The end result will be a permanent self-sustaining regional co-operation network for seismic risk reduction.

■ Following routes established by traders in the days of the Roman Empire, the 10,000-kilometre Trans-European Motorway links ten European countries with a spider's web of concrete: Austria, Bulgaria, Czechoslovakia, Greece, Hungary, Italy, Poland, Romania,

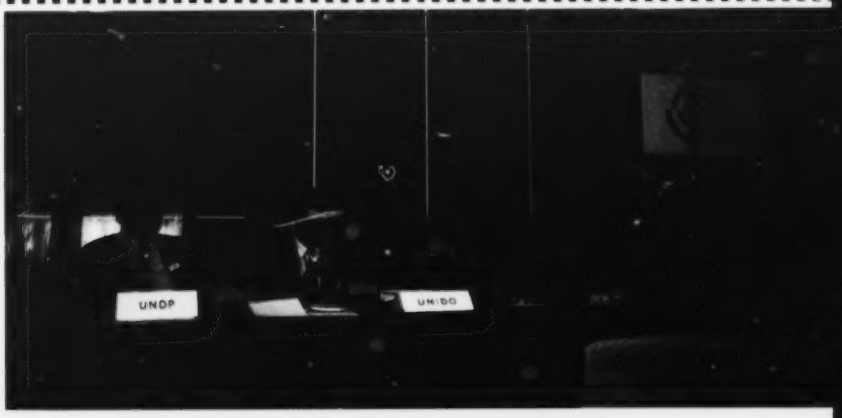
Mediterranean countries are prone to earthquakes.

Turkey and Yugoslavia. When completed it will extend from Gdansk, on the Baltic Sea coast of Poland to Athens, on the Aegean Sea in Greece, and Turkey's easternmost borders with Iran, Iraq and Syria. The whole of Europe, as well as neighbouring West Asian and North African countries will benefit from this new network of fast, safe and efficient highways. Produce from the south will find a direct line of transport to European markets. Tourists from the north will gain easy access to the sunny resorts of the south. Congestion will be eased for the increasing number of vehicles ferrying goods and people within the region.

The motorway began to take shape in the early 1970s when Hungary and Poland asked UNDP to support preparatory studies for its design and construction, and the ten countries joined in a regional project executed by the Economic Commission for Europe. After the motorway's feasibility and environmental impact were assessed, engineering designs were prepared. UNDP then assisted in co-ordinating and ensuring high standards of construction. About 400 engineers and other specialists received training and relevant technical documents were disseminated.

Individual countries are assuming design and capital construction costs for Trans-European Motorway links within their territories. Now that nearly half the branches are either completed or at an advanced stage of design or construction, UNDP is assisting in setting up a self-sustaining mechanism through which the ten countries can co-ordinate the motorway's further design, construction, operation and maintenance.

■ On the eve of passing more than 25 new economic laws catapulting it into a market economy, Poland hosted the International Forum on Joint Ventures for Small and Medium Scale Enterprises, sponsored by UNDP and UNIDO, in October 1989. Bulgaria, Cyprus, Hungary, Malta, Poland, Turkey and Yugoslavia sent representatives and observers came from several Arab, Asian and African developing countries. Also present were specialists in private enterprise from Canada, the UK and the US, as well as more than 100 Polish entrepreneurs.



Poland has hosted a forum on joint ventures.

The Forum gave participants an opportunity to discuss prospects and problems of developing private businesses, especially East-West joint ventures. From the keynote speaker they heard that elements crucial for the success of any enterprise include selecting the best people, training, market research, obtaining financing and securing adequate follow-up consulting services. Polish entrepreneurs, who in the past have contributed only 10 per cent to their nation's economy, did not refrain from airing their constraints. Lack of capital, high taxes, interest rates as high as 120 per cent and a banking system that takes eight months to process a check all make doing business exceedingly difficult, they said.

Consultants indicated that potential partners for joint ventures with the European countries would be taking a hard look at factors which had limited such agreements in the past, such as laws limiting repatriation of profits, uncertainty of raw material supplies, product quality, lack of trained managers, poor telecommunications and the absence of a real estate market. On the other hand, it was emphasized that Eastern European countries could be very attractive associates for investors wishing to enter vast new markets.

The Forum was considered a first step in promoting enterprises in the region. It recommended three additional workshops — on the regulatory and structural environment, venture capital, and privatization. It was also suggested that interested countries familiarize themselves with good models of entrepreneurship through study tours and specialists' visits. Training programmes, including those for trainers and government staff, were advocated.

FUTURE DIRECTIONS

■ The dramatic political and economic upheavals which swept through Eastern Europe in late 1989 demand that UNDP technical co-operation in the region take some new directions. In this changing climate, UNDP is offering the European countries its extensive experience in establishing and strengthening East-West networks in key fields such as energy, science and technology, industrial pollution and transport. It is also ready to assist them with its capacities to assess needs and manage aid co-ordination, as well as to implement technical assistance funded by other donors through its Office for Project Services (OPS).

In response to requests from the countries concerned, the possible range of UNDP's future involvement in Europe includes:

- advising on macro-economic policies and management issues necessary for restructuring and the effective operation of more open economies;
- enhancing public sector efficiency and assisting the privatization process;
- creating or strengthening institutions critical to the operation of more market-oriented economies, for example, private commercial banking and credit institutions, stock exchanges, patent offices and centres for promoting direct foreign investment;

European and Arab countries share photovoltaic data.

■ formulating new property, investment and tax legislation to facilitate the changes envisioned and promote entrepreneurship;
■ training in skills necessary for entrepreneurship;
■ mobilizing, assessing and co-ordinating assistance from other donors and investors.

Some first steps have already been taken. For example, in co-operation with other donors, UNDP is supporting joint ventures, trade agreements, and training and consultancy arrangements with Eastern European businessmen. It is also considering retaining a panel of economic experts who would be on call for short-term advisory assignments.

■ UNDP's programmes for the ten European countries will continue to support the build-up of advanced technological capabilities, needed to modernize scientific and manufacturing capacities. A good example can be found in Bulgaria, where $1 million is being used to establish a training and consultancy centre for advanced manufacturing technologies. The project aims to raise the technological capabilities and efficiency of Bulgarian industry through the accelerated introduction of computers in automation of manufacturing, and to further develop new highly productive technologies in industry. As the national focal point for this effort, the Centre will carry out research and development in various aspects of advanced manufacturing technologies, provide consultancy services and information support to industry and develop computer-based training systems and demonstration facilities.

■ Innovative UNDP-supported programmes already used to some extent in the region, as well as by developing countries elsewhere, could find new applications in Europe. Especially relevant is the Management Development Programme (MDP), established in 1988 to help developing countries improve their public sectors by enhancing government management capabilities. Poland has already received an MDP mission to assess its capacity to formulate and implement long-term reform policies, and such missions have been requested by Hungary and Yugoslavia. The Polish mission resulted in several recommendations for enhancing the organization and productivity of the public and parastatal sector. It also outlined steps required to upgrade the civil service and develop human resources for the private sector, identifying training needs and calling for three to five new management schools. Follow-up UNDP advisory services will provide a sound basis for raising funds to cover the MDP mission's recommendations.

■ UNDP's TOKTEN (Transfer of Knowledge through Expatriate Nationals) programme will also play an increasingly important role in the European Region. It is designed to reverse the effects of the "brain drain," which deprives developing countries of some of their most valuable human skills and talents, with a "brain gain," by bringing high-level expatriates who have permanently settled abroad back to their countries of origin for short consultancies. The programme was started in 1976 in Turkey, which has now had about 460 TOKTEN consultancies in fields ranging from cancer control to pollution reduction. Costs are kept low because the consultants commonly waive their normally high fees out of loyalty to their home countries. UNDP pays for their travel and living expenses while host institutions provide an honourarium. Many of the European countries' needs for short-term expertise could be met by TOKTEN consultants. Malta and Poland have already begun TOKTEN projects.

■ On financial terms similar to those of TOKTEN, the Short-Term Advisory Services (STAS) programme provides technical specialists in many fields for brief periods, irrespective of their country of origin. This may also be of interest to the European countries, inasmuch as nearly all of the STAS consultants on UNDP's roster have had extensive experience in the private sector.

■ United Nations Volunteers (UNVs), young professionals who volunteer their services for two-year terms, can also be of use to the

European countries. In turn, many of these countries have highly trained young specialists in certain fields that they might provide to other developing countries. Cyprus, Poland, and Turkey have already expressed interest in receiving and providing UNVs.

■ Technical Co-operation among Developing Countries (TCDC) will also play an increasingly important role in the region. Many of the countries have advanced capabilities which they are happy to offer to their neighbours, as well as to developing countries in other parts of the world. To mention a few examples, Romania's Scientific Research and Technological Engineering Institute for Agricultural Machines and Implements is providing technical co-operation in the design and testing of agricultural equipment for planting, irrigating, fertilizing, harvesting and all other farming operations. Bulgaria's Institute for Industrial Cybernetics and Robotics offers training in the mechanization of factory operations. Portugal is using a portion of its UNDP allocation for technical co-operation with Portuguese-speaking African countries. Turkey, where small industries comprise nearly 99 per cent of enterprises and provide more than 45 per cent of all jobs, has important experience to share in private sector development, as well as in a number of industrial and scientific fields. It has already implemented 59 of 247 projects agreed to at a UNDP-supported TCDC programming exercise held in Ankara in 1987. UNDP is ready to match capacities and needs for TCDC, and, through the European Regional Programme, to help countries work together on problems of common concern.

■ UNDP also plans to strengthen links between European governments and institutions and their counterparts in Arab countries. European countries have extensive experience in applying advanced technologies in situations where well-developed educational and physical infrastructures are lacking. This can be very useful to Arab countries facing similar constraints. UNDP serves as a catalyst for exchanges between the two regions, enabling Arab countries to join in projects originally developed for Europe. For example, Arab participants are attending Eastern European seminars on computerized management systems and industrial energy conservation. Likewise, a European project for the development of telecommunications is serving as a model for a similar project in the Arab States.

A conference UNDP sponsored in Poland enabled women from both regions to compare and assess economic opportunities offered to them in their increasingly industrialized societies, and to discuss the impact on family structure. The Mediterranean Regional Aquaculture Project is enabling countries from both regions to gain new knowledge of fish farming, which can boost both protein supplies and foreign currency earnings.

Several of the exchanges have generated follow-up action among the participants. Six European and Arab countries are establishing a network of institutions and experts to exchange data about photovoltaic systems as a result of a UNDP-sponsored workshop in Yugoslavia. European and Arab countries are co-operatively developing their energy planning capabilities as a result of UNDP and World Bank support. A "Healthy Cities" symposium held in Hungary led participants to organize additional meetings on the topic on their own.

■ UNDP will promote further European-Arab exchanges through The Mediterranean Environmental Technical Assistance Programme, which will survey all available environmental training institutions in the Arab and European regions to provide a basis for designing future environmental protection training programmes. Plans are also on the drawing board for a Mediterranean Transport Plan, which would enable states bordering the sea to co-ordinate different methods of transport, and for a network of microbial biotechnology and bioengineering institutions with important applications for the two regions, from food processing to waste disposal.

UNDP will remain a responsive partner for the European countries as they strengthen promising programmes and embrace new approaches to self-reliant, sustainable development. It is committed to helping them achieve their development goals, for the 1990s and beyond.

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